```
const unsigned num_values = 5;
1
    const unsigned SENSOR_PIN = 2;
2
    const unsigned RED_PIN = 3;
3
    const unsigned YELLOW_PIN = 4;
4
    const unsigned GREEN PIN = 5;
5
    const unsigned BUTTON = 6;
6
7
    int values[num_values] = {0};
8
9
    int values_2[num_values] = {0};
10
    int index = 0;
11
    int sum_2 = 0;
12
13
14
    unsigned interval = 850;
15
    bool is red = true;
    bool blink = true;
17
    bool is_on = false;
18
    bool is_on_2 = false;
19
    bool button_held = false;
20
    unsigned button_held_timer;
21
    unsigned prev_time;
22
    unsigned prev_time_2;
23
24
25
26
    void blink_leds() {
         if (millis() - prev_time > interval) {
27
28
             is_on = !is_on;
             digitalWrite(YELLOW_PIN, is_on);
29
30
             prev_time = millis();
31
         }
32
33
         if (blink && millis() - prev_time_2 > interval / 3) {
34
             is_on_2 = !is_on_2;
35
36
             if (is_red) {
37
                 digitalWrite(RED_PIN, is_on_2);
38
             } else {
39
                 digitalWrite(GREEN_PIN, is_on_2);
40
41
42
             prev_time_2 = millis();
43
         }
44
45
         if (digitalRead(BUTTON)) {
46
             if (button_held) {
47
                 if (millis() - button_held_timer > 2000) {
48
                     blink = !blink;
49
50
                     if (!blink) {
51
                         is_on_2 = true;
52
                     }
53
54
             } else {
55
                 button_held_timer = millis();
56
                 button_held = true;
57
```

```
58
              }
 59
          } else {
 60
              if (button_held && millis() - button_held_timer < 2000) {</pre>
 61
                  if (is_red) {
 62
                       digitalWrite(RED_PIN, LOW);
 63
                  } else {
 64
                       digitalWrite(GREEN_PIN, LOW);
 65
 67
                  is_red = !is_red;
 68
 69
                  if (is_red) {
 70
                       digitalWrite(RED_PIN, is_on_2);
 71
 72
                       digitalWrite(GREEN PIN, is on 2);
 73
 74
 75
              button_held = false;
 76
          }
 77
     }
 78
 79
 80
     void setup() {
 81
          prev_time = millis();
 82
          prev_time_2 = millis();
 83
     }
 84
 85
     void loop() {
 86
          int sum = 0;
 87
          for (int i = 0; i < num_values; i++) {</pre>
 88
              values[i] = analogRead(SENSOR_PIN);
 89
              sum += values[i];
 90
 91
 92
          Serial.println(sum / num_values);
 93
 94
          int new_value = analogRead(SENSOR_PIN);
 95
 96
          sum_2 += new_value;
 97
          sum_2 -= values_2[index];
 98
 99
          values_2[index] = new_value;
100
101
          index++;
102
          index %= num_values;
103
```

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